United States Department of Agriculture | **Forest Service** | **Northeastern Area State & Private Forestry** | **180 Canfield Street Morgantown, WV 26505-3101**

Date: July 11, 2007

Subject: Trip Report to the Jack Pine Budworm Aerial Spray Program, Ontario Canada

To: Dan Twardus Iral Ragenovich

Background: In Ontario, there have been 4 significant outbreaks of JPB since surveys began in 1930. In June 2006, OMNR successfully treated 256,468 acres in southern Ontario by meeting their objectives of limiting defoliation to below 40%, mitigating timber losses and downgrading to timber quality, and reduction of potential fire hazard. Even with the spraying in 2006, the JPB infestation persisted and expanded to north and west and exceeded to over 1.1 million acres. Approximately 90% of the affected area was crown land. OMNR has the mandate under the Crown Forest Sustainability Act to ensure long term health of Ontario's' forests.

On May 28-June 5th, John Ghent (R-8) and I were asked by the Ontario Ministry of Natural Resources (OMNR) to participate in the 2007 Jack Pine Budworm (JPB) aerial spray program in Northwest Ontario. Many of the OMNR staff has limited spray experience, especially with the significant advances in spray application technology in recent years. We were specifically asked to assist OMNR in aircraft calibration, characterization, and GIS/GPS data interpretation.

OMNR had a large complex program of approximately 430,000 acres from three project bases (Kenora, Dryden, and Atikoken) with 27 aircraft. All areas were treated with a single application of Foray 76B at a rate of 1.5 liters/Ha (approximately 20 oz/ac). Forest Protection Limited of New Brunswick was the contractor for the Kenora base, Supermarine Aircraft of St. Thomas, Ontario, was the contractor for the Dryden base, and Battlesford Airspray of Saskatchewan was the contractor for the Atikoken base.

John and I arrived in Kenora on May 27th and assisted with aircraft calibration on May 28-29th. The aircraft type calibrated were AT-802s, Twin Star and A Star (rotor wing), and Ag-Cats. Each pilot was then verified for GPS proficiency. The aircraft was loaded with water and the pilot was instructed to fly to the nearest treatment block, spray several lines within the treatment block, return to base, and download the flight files. This was to ensure that all AgNav systems were functioning properly prior to the start of the project. OMNR had a GIS specialist on site to assist with mapping and all GPS downloads. Demonstration and training of the following US Forest Service software were provided to OMNR:

Calibrator (Aircraft Spray Calibrator Program)
Casper (Computer Assisted Spray Productivity and Efficiency Routine) Application to estimate aircraft productivity and efficiency rates along with pilot flight hours.

THC (Foray temperature and humidity chart) Temperature and humidity charting to determine proper environmental condition for Btk applications.

Spray Advisor An ArcView extension that allows the user to digitize spray blocks, label and organize spray blocks, export spray blocks into airborne GPS formats, and import spray line information after spraying.

May 30th – June 2nd, John and I worked at the Dryden base with Supermarine and OMNR by assisting with aircraft calibration and pilot proficiency with GPS. Supermarine provided fourteen M-18 Dromaders for the Dryden project area. We were also asked to attend a safety pre-briefing meeting conducted by Supermarine which included all project personnel. Demonstration and training of the software listed above was also provided for the Dryden project.

BioForest Technologies was contracted to conduct foliage/larval development and deposit analysis for the entire project area. Due to cool temperatures and rain, larval development did not progress as quickly as expected. Treatment began on May 31st and the project was completed on June 16th.

Even though John and I were not able to visit all three project bases and stay for the duration of the program, we were very impressed with the high level of organization not only from OMNR but from the three contractors in order to implement this complex program safely and efficiently. Safety was always emphasized as the number one priority for all individuals involved. John and I received a "thank you" letter from OMNR for our expertise and advice, but we learned as much from them as they did from us. To be able to safely and efficiently treat 430,000 acres with 27 aircraft in 17 days is a major accomplishment. John and I would also like to thank the International Activities Team for providing us the funding to participate in OMNR's Jack Pine Budworm program.

Respectfully submitted,

Amy H. Onken